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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/480,986	01/10/2000	MICHAEL BOLOTSKI	18035-001010	5021

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EXAMINER

PIZIALI, JEFFREY J

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/480,986

Applicant(s)

BOLOTSKI ET AL.

Examiner

Jeff Piziali

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-10 and 12-21 is/are pending in the application.
- 4a) Of the above claim(s) 6,8,14,16,20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,7,9,10,12,13,15,17-19 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicants' election of Species II (Claims 7 and 15) in the reply filed on 22 September 2005 is acknowledged. Because applicants did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 6, 8, 14, 16, and 20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 22 September 2005.
3. This application contains claims 6, 8, 14, 16, and 20 drawn to an invention nonelected with traverse in the reply filed on 22 September 2005. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.
4. Applicants are reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Drawings

5. The drawings were received on 23 December 2003 (Paper No. 20). These drawings are acceptable.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claim 21 recites the limitation "the transition of the liquid crystal material from the first state to the second state" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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10. Claims 1, 2, 5, 7, 9, 10, 12, 13, 15, 17-19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKnight (US 6,144,353) in view of Bonnett et al. (US 6,075,506).

Regarding claim 1, McKnight discloses a method for operating a display [Fig. 1A & 1B; 12] having a plurality of pixel elements [Fig. 1A & 1B; 28], comprises: applying a single transition voltage [Fig. 2C, 151] to the plurality of pixel elements on the display during a first period of time [Fig. 2C, t_0-t_1] within a first field time (see Column 11, Lines 49-52), wherein the single transition voltage induces liquid crystal material [Fig. 2A, 106] in each pixel element to begin a transition from a bright state [Fig. 2C, high intensity] to a dark state [Fig. 2C, low intensity]; thereafter while the liquid crystal material for each pixel element is performing the transition to the dark state [Fig. 3A; 204] in response to the application of the single transition voltage, initiating application of a first paint voltage [Fig. 3A; 206] to one pixel element of the plurality of pixel elements during a second period of time [Fig. 2C, t_1-t_2] within the first field time, wherein the single transition voltage is supplied to the one pixel element prior to initiating application of the first paint voltage, and wherein initiating application of the first paint voltage, after the one pixel element is performing the transition to the dark state, overwrites the single transition voltage and induces liquid crystal material in the one pixel element to begin transitioning to a state associated with the first paint voltage [Fig. 2C, 154] (see Column 10, Lines 1-40); thereafter waiting a predetermined time period within the first field time; and thereafter illuminating the pixel [Fig. 3A, 210] within the first field time (see Column 11, Line 26 - Column 12, Line 47).

In this embodiment, McKnight teaches momentarily driving the display pixel elements dark [Fig. 2C, t_0-t_1], prior to applying the paint voltage (i.e. pixel data). However, other

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embodiments of McKnight disclose driving the display pixel elements bright, prior to applying the paint voltage (see Figs. 7A-7C; Column 15, Line 23 - Column 16, Line 60). Additionally, Bonnett discloses a single transition voltage [Fig. 2a; strobe signal S] inducing liquid crystal material (see Column 3, Lines 50-56) in each pixel element to begin a transition from a dark/black state to a bright/white state prior to initiating application of the first paint voltage (i.e. data signal) (see Column 4, Lines 19-30). McKnight and Bonnett are analogous art, because they are from the shared field of driving liquid crystal display devices. Therefore, it would have been obvious to one skilled in the art at the time of invention to use Bonnett's white state blanking technique with McKnight's pixel data driving method, so as to increase the grey scale capability of the display.

Regarding claims 2, 10 and 18, McKnight discloses illuminating the pixel with an illumination source [Fig. 2A, 114] of a first color within the first field time (see Column 9, Lines 24-28).

Regarding claim 5, McKnight discloses illuminating the pixel with an illumination source [Fig. 2A, 114] (see Column 9, Lines 16-43).

Regarding claims 7 and 15, McKnight discloses applying the first transition voltage to a first row of pixels while holding a common electrode [Fig. 2A, 108] at a constant value [Fig. 2C, 151 between t_1 and t_2] (see Column 10, Lines 1-50), and thereafter applying the single/first

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transition voltage to a second row of pixels while holding a common electrode at a constant value [Fig. 2C, 151 between t_5 and t_6] (see Column 11, Line 33 - Column 12, Line 12).

Regarding claim 9, this claim is rejected under the reasoning applied in the above rejection of claim 1, furthermore, McKnight discloses a transaction circuit [Fig. 2A, 110] coupled to each pixel; a paint circuit [Fig. 2A, 102] coupled to the transaction circuit; a timer circuit [Fig. 2A, 112] coupled to the paint circuit; and an illumination circuit coupled to the timer circuit [Fig. 2A, 114 & 116] (see Column 9, Lines 16-43).

Regarding claims 12 and 19, McKnight discloses red, green and blue colors (see Column 9, Lines 24-28).

Regarding claim 13, McKnight discloses the illumination circuit comprises a monochromatic illumination source (see Column 9, Lines 24-25).

Regarding claim 17, this claim is rejected under the reasoning applied in the above rejection of claim 1, furthermore, McKnight discloses an initialization circuit [Fig. 2A, 110] coupled to the pixels; a driving circuit [Fig. 2A, 102] coupled to the initialization circuit; and an illumination circuit [Fig. 2A, 114 & 116] coupled to the driving circuit (see Column 9, Lines 16-43).

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Regarding claim 21, McKnight discloses the transition of the liquid crystal material from the first state to the second state is associated with a transition from a dark state to a bright state (see Column 11, Line 33 - Column 12, Line 12).

Response to Arguments

11. Applicant's arguments with respect to claims 1, 2, 5, 7, 9, 10, 12, 13, 15, 17-19, and 21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

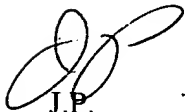
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571) 272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



27 December 2005



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